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Exploring means to facilitate software debugging

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Propositions
pertaining to the dissertation
“Exploring Means to Facilitate Software Debugging”
by Mozhan Soltani

1. Genetic algorithms are techniques which can be used for efficient automated crash reproduction. Further work is, however, required to be done so that this approach to automated crash reproduction can be applied at scale. [This thesis, Chapter 2 and 3]
2. What software users provide in bug reports can very well impact how efficiently bug reports are processed by software developers. [This thesis, Chapter 5]
3. Spending effort to specify contracts saves future effort to debug software programs. [This thesis, Chapter 6]
4. Using multi-objective search algorithms improves efficiency of the search-based crash reproduction approach in EvoCrash. [This thesis, Chapter 4]
5. It is important to use suitable statistical tests and interpret their outcomes appropriately when it comes to assessing various factors in an empirical study.
6. Delivering reproducible research in software engineering, in which all contributions are made accessible at least to reviewers, is essential for enabling sincere review processes.
7. When proposing a new algorithm to solve a software engineering problem, it is important to use a representative benchmark for evaluating the algorithm and compare it with the state of the art techniques.
8. When interviewing software developers for an empirical study in which a particular programming language or tool is of interest, it is important to account for the amount of experience the interview participants already have in using the language or tool.
9. For intercultural groups to thrive, it is important to provide the group members with a safe and open environment in which they can expose their values and perspectives.
10. Unhealthy rivalry and competitive behavior turn sincere research work into means for showing off intelligence and prestige.